

# **EXHIBIT D**

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**IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF CALIFORNIA**

COREPHOTONICS, LTD.,

Plaintiff,

v.

APPLE INC.,

Defendant.

Case No. 3:17-cv-06457-JD

**EXPERT REPORT OF DR. JOHN C. HART REGARDING INFRINGEMENT OF  
CERTAIN CLAIMS OF U.S. PATENT NO. 9,185,291 BY APPLE INC.**

[REDACTED]

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[REDACTED]

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## **1 BACKGROUND**

1. I have been asked by counsel for Plaintiff Corephotonics Ltd. (“Corephotonics” herein) to provide my opinions concerning infringement of certain claims of U.S. Patent No. 9,185,291 (the “’291 patent” hereafter) by Apple Inc. (“Apple” herein). The claims which are being asserted by Corephotonics against Apple are claims 1-7 and 10 of the ’291 patent. Where appropriate herein I refer to these claims collectively as the Asserted Claims.

2. In this expert report, I provide opinions regarding the ’291 patent, and Apple’s infringement of the currently asserted claims of the ’291 patent. I expect to testify at trial on these issues, as set forth in this report and in any supplemental reports or declarations that I may prepare for this litigation in the future. I also expect to testify at trial with respect to the matters addressed by any expert testifying on behalf of Apple, if asked about these matters by the Court or by the parties’ counsel. I may also testify on other matters relevant to this case, if asked by the Court or by the parties’ counsel.

3. To ensure that my opinions are complete and accurate, I reserve the right to supplement or amend this report if additional facts and information that affect my opinions become available. Such information may include, for example, materials produced in this litigation, and information and documents relevant to this case that Apple has not yet disclosed. I may also supplement or amend my report or opinions in response to additional discovery or other events, and may rebut expert reports submitted by Apple. For example, I understand highly relevant technical information was made available by Apple, at Corephotonics’ request, in the weeks leading up to my signing of this report, and that Corephotonics has not had an opportunity to take deposition testimony of any Apple witnesses about such late-produced information. Neither have I had a significant amount of time to digest such information, and thus reserve my right to supplement my

APPL\_COREP\_02819463, at APPL\_COREP\_02819472 [REDACTED] [REDACTED]). Thus, [REDACTED] in the iPhone 7 Plus satisfies the requirement “with a Wide field of view (FOV).” Within the meaning of the ’291 patent, which provides that the term “FOV” as used in the claims to mean the value “measured from the center axis to the corner of the sensor (i.e. half the angle of the normal definition),” this would mean that the claimed “FOV” here for the Utah lens is 37.5 degrees.

84. The claimed “Wide image signal processor (ISP)” of claim 1 is satisfied by the software and hardware in the Accused Products responsible for connecting to, enabling, configuring, and utilizing the camera module to, for example, perform image and video output/capture operations, and specifically includes the bus connections from the wide camera’s [REDACTED] to the Apple SoC. This includes specifically the iOS operating system and its use of camera drivers and ISP firmware pipeline. This includes specifically what Apple describes as [REDACTED]—which is the SoC CPU in the Accused Products, which is the Apple A10 Fusion for the iPhone 7 Plus based on publicly available information—“[REDACTED]” and “[REDACTED]” the latter of which is provided through iOS software such as the included camera drivers and ISP firmware. *See, e.g.*, Chen Depo. Tr. 47:7-10 (“[REDACTED]”). Apple’s witness also confirmed that he was not aware of any changes to the ISP firmware of a given Accused Product that would make any difference to Apple’s alleged infringement in this case. *Id.* at 82:1-22; *see also* APPL\_COREP\_03212266 (“[REDACTED]” operations flow charts).

85. The “Wide lens”, “Wide sensor”, “Wide image signal processor” in the iPhone 7 Plus, comprising collectively the lens in the wide rear-facing camera, the Sony image sensor located at the image plane of the lens, and the hardware and software responsible for connecting to, enabling, configuring, and utilizing the camera module, provides image data of an object of scene to the

SoC. Thus, the iPhone 7 Plus also satisfies the limitation, “the Wide imaging section operative to provide Wide image data of an object or scene.”

86. For Group 2 of the Accused Products,” the term “Wide imaging section” is satisfied by the rear-facing camera on the Accused Products described publicly by Apple and others as the “Ultra Wide” camera. As set forth in the chart included in my discussion of the Preamble of claim 1, each Accused Product in Group 2 has a 12MP sensor with autofocus pixels and a corresponding “ultra wide” camera.

87. I note that publicly available information, including cell phone specifications provided on gsmchoice.com, Apple’s yearly keynote presentations launching new device models, and technical reviews of the Accused Products such as on notebookcheck.net, indicates that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



88. The “Wide lens” is the lens used with the “Ultra Wide” camera on the Group 2 Accused Products with a 120-degree field of view, which corresponds to “a fixed focal length Wide lens with a Wide field of view (FOV).”

89. For Group 2 Accused Products, the claimed “Wide image signal processor (ISP)” of claim 1 is satisfied by the software and hardware in the Accused Products responsible for connecting to, enabling, configuring, and utilizing the camera module to, for example, perform image and video output/capture operations, and specifically includes the bus connections from the Ultra Wide camera’s [REDACTED] to the Apple SoC. This includes specifically the iOS operating system and its use of camera drivers and ISP firmware pipeline. This includes specifically what Apple describes as “[REDACTED]”—which is the SoC CPU in the Accused Products—“[REDACTED]” and “[REDACTED]” the latter of which is provided through iOS software such as the included camera drivers and ISP firmware. See, e.g., Chen Depo. Tr. 47:7-10 (“[REDACTED]”). Apple’s witness also confirmed that he was not aware of any changes to the ISP firmware of a given Accused Product that would make any difference to Apple’s alleged infringement in this case. *Id.* at 82:1-22; APPL\_COREP\_03212266 (“[REDACTED]” operations flow charts). The particular Apple SoC in any given Accused Product is publicly available information published by Apple itself during its annual keynote events launching new models of its products. For example, the iPhone 11 series (including the iPhone 11, iPhone 11 Pro, and iPhone 11 Pro Max) uses the Apple Silicon A13 Bionic SoC. See <https://www.trustedreviews.com/news/apple-a13-bionic-3936887>; <https://www.apple.com/newsroom/2019/09/iphone-11-pro-and-iphone-11-pro-max-the-most-powerful-and-advanced-smartphones/> (identifying A13 Bionic SoC used in iPhone 11 Pro line).

90. The “Wide lens”, “Wide sensor”, “ Wide image signal processor” in Group 2 of the Accused Products, comprising collectively the lens in the Ultra Wide rear-facing camera, the Sony image sensor located at the image plane of the lens, and the hardware and software responsible for connecting to, enabling, configuring, and utilizing the camera module, provides image data of an object of scene to the SoC. Thus, Group 2 Accused Products also satisfies the limitation, “the Wide imaging section operative to provide Wide image data of an object or scene.”

91. For Group 3 of the Accused Products, the term “Wide imaging section” is satisfied in the same way that the Group 2 Accused Products satisfy the limitation. As reflected in the chart provided in my discussion of the preamble of claim 1, each product in the Group 3 Accused Products comprises an Ultra Wide camera with a lens having a 120-degree field of view (“a fixed focal length Wide lens with a Wide field of view (FOV)”). Like the rest of the Accused Products, each of the iPad models in Group 3 also comprises image sensors for the rear-facing camera array. *See, e.g.,* APPL\_COREP\_00224959 (bill of materials for iPad Pro (11-inch) identifying [REDACTED]). The sensors utilized with the “Ultra Wide” cameras for the Group 3 Accused Products correspond to the “Wide sensor” of the claims. Similarly, the claimed “Wide image signal processor (ISP)” of claim 1 is satisfied by the software and hardware in the Group 3 Accused Products responsible for connecting to, enabling, configuring, and utilizing the camera module to, for example, perform image and video output/capture operations, and specifically includes the bus connections from the Ultra Wide camera’s sensor to the Apple SoC. These components together are used in the Accused Products to generate raw image data from the Ultra Wide camera, and thus satisfy the limitation, “the Wide imaging section operative to provide Wide image data of an object or scene.”

buffers, containing raw image data, via processing algorithms including Stereo Fusion. For example, the [REDACTED]

[REDACTED]

[REDACTED] See [REDACTED]

[REDACTED]

[REDACTED]. The [REDACTED]

[REDACTED] The [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The [REDACTED]

[REDACTED] See [REDACTED]

[REDACTED] calls the

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] output a single image based on the reference and non-reference images. Accordingly, the iPhone 7 Plus satisfies the limitation, “combine in still mode at least some of the Wide and Tele image data to provide a fused output image of the object or scene from a particular point of view.”

110. All Accused Products satisfy the limitation, “combine in still mode at least some of the Wide and Tele image data to provide a fused output image of the object or scene from a particular point of view,” also through the use of a set of automatic image processing algorithms applied in the ISP image processing pipeline which I will refer to as the Local Tone Mapping (LTM) features.

As its name suggests, it is a feature which involve the use of image data from multiple cameras in the rear-facing camera array to adjust the one camera's image output with respect to tone mapping.

111. As a general matter, Apple confirmed that the application of LTM algorithms is useful in the Accused Products because it ensures the cameras in the multi-camera system are [REDACTED]

[REDACTED]  
[REDACTED] Chen Depo. Tr. at 91. These tasks are performed with [REDACTED] in the Accused Products. As Mr. Chen testified:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Chen Depo. Tr. at 23:22-24:23.

112. In the Accused Products, depending on what zoom factor is selected by a user for a given image capture operation, a “primary” camera and “secondary” camera are selected, where the primary camera [REDACTED] and with the secondary camera [REDACTED]

[REDACTED] For example, where a given image capture operation involves 0.5x zoom factor (and thus forcing the perspective of the “Ultra Wide” camera in the Group 2 and 3 Accused Products),

[REDACTED]

[REDACTED] *See, e.g.*, Chen Depo. at 94-95:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

*See also id.* at 95 (“[REDACTED]”

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED].”); 93-94 (“[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]”).

113. For each of the LTM functionality in the Accused Products, the functionality (including

[REDACTED]

[REDACTED] See Chen Depo. Tr. 136:1-11 (“[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED].

114. The goal of the LTM functionality is to ensure that local regions of a given output image

have the correct contrast. Chen Depo. Tr. 97:20-25 (“Q. [REDACTED]

[REDACTED]

[REDACTED]”). Without tone mapping adjustments, an

output image may appear to be “washed out color wise.” See *id.* at 98:1-5 ([REDACTED]

[REDACTED]

[REDACTED]), 98:5-10 (“[REDACTED]

[REDACTED]

[REDACTED].”). Further, [REDACTED]

[REDACTED]

[REDACTED] APPLE\_COREP\_SC\_00000585. Apple’s developer documentation provides a basic example of where local tone mapping adjustments can be applied: “[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]” *Id.*

115. As used in the Accused Products, a “local tone curve” is created by [REDACTED]

[REDACTED]

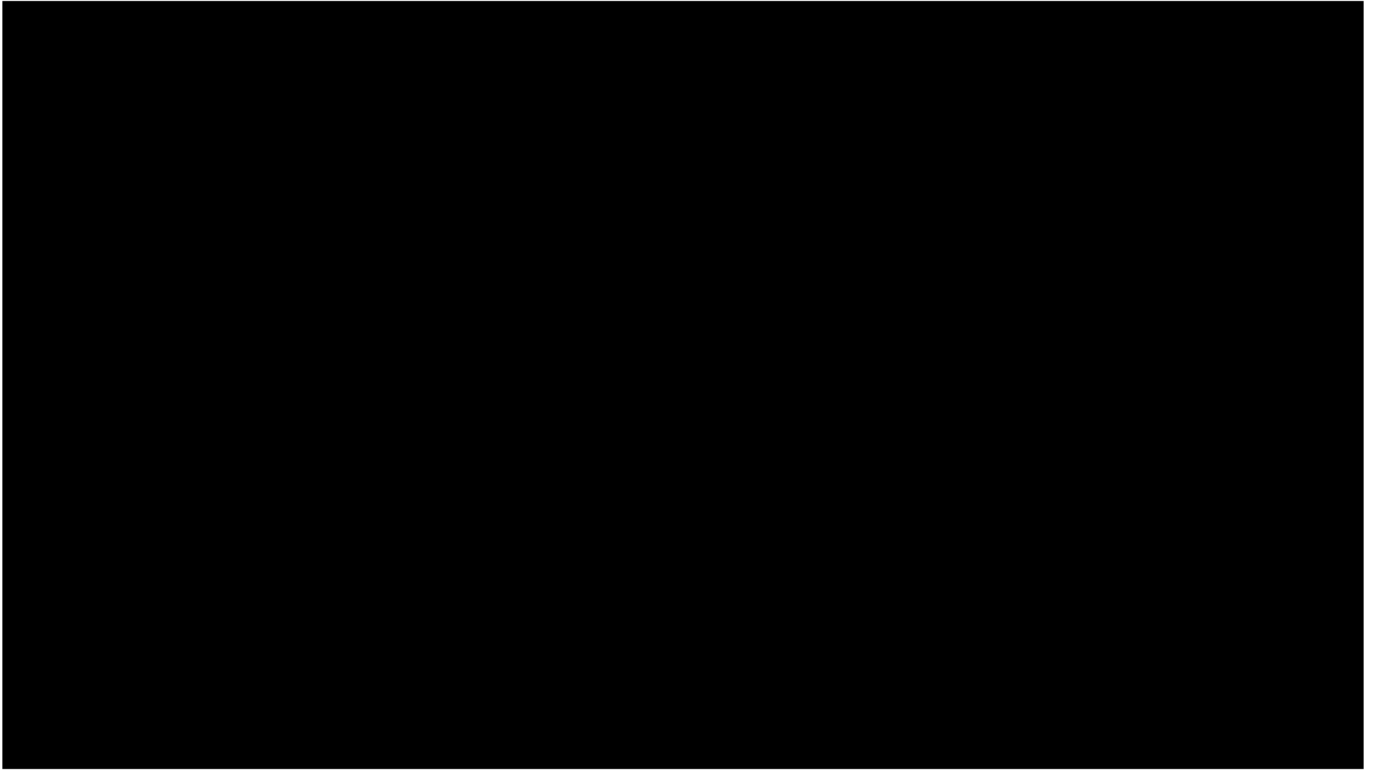
[REDACTED] Chen Depo. Tr. 87:14-20. A local tone curve is generated by the Accused Products with [REDACTED]

[REDACTED]” *Id.* at 96:16-24

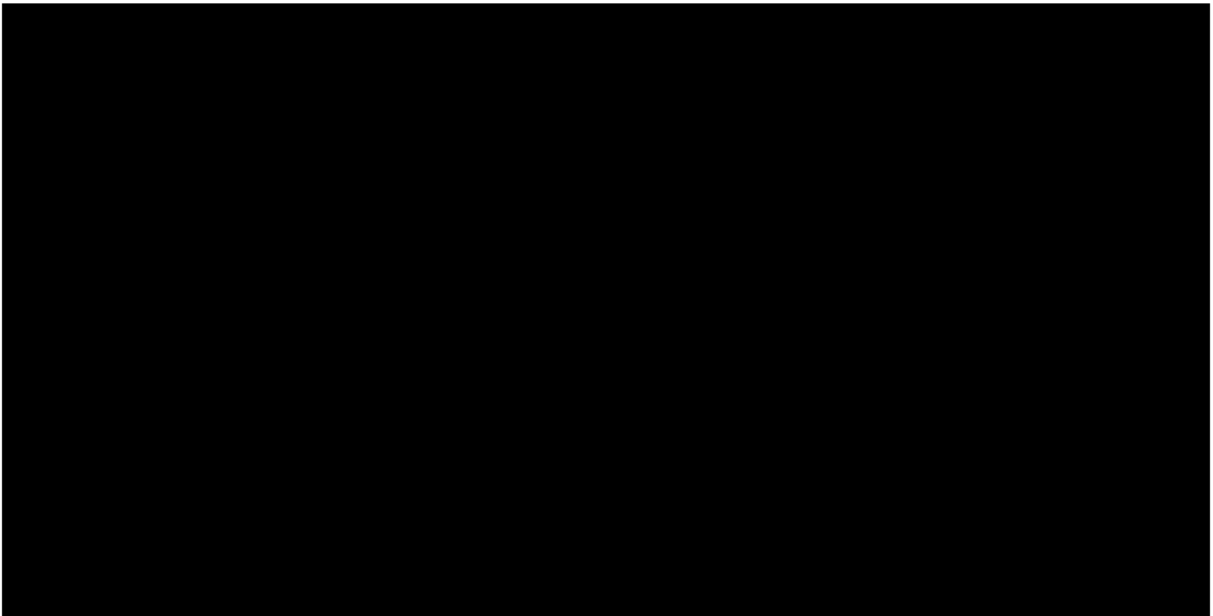
(“Q. [REDACTED]

[REDACTED]”).

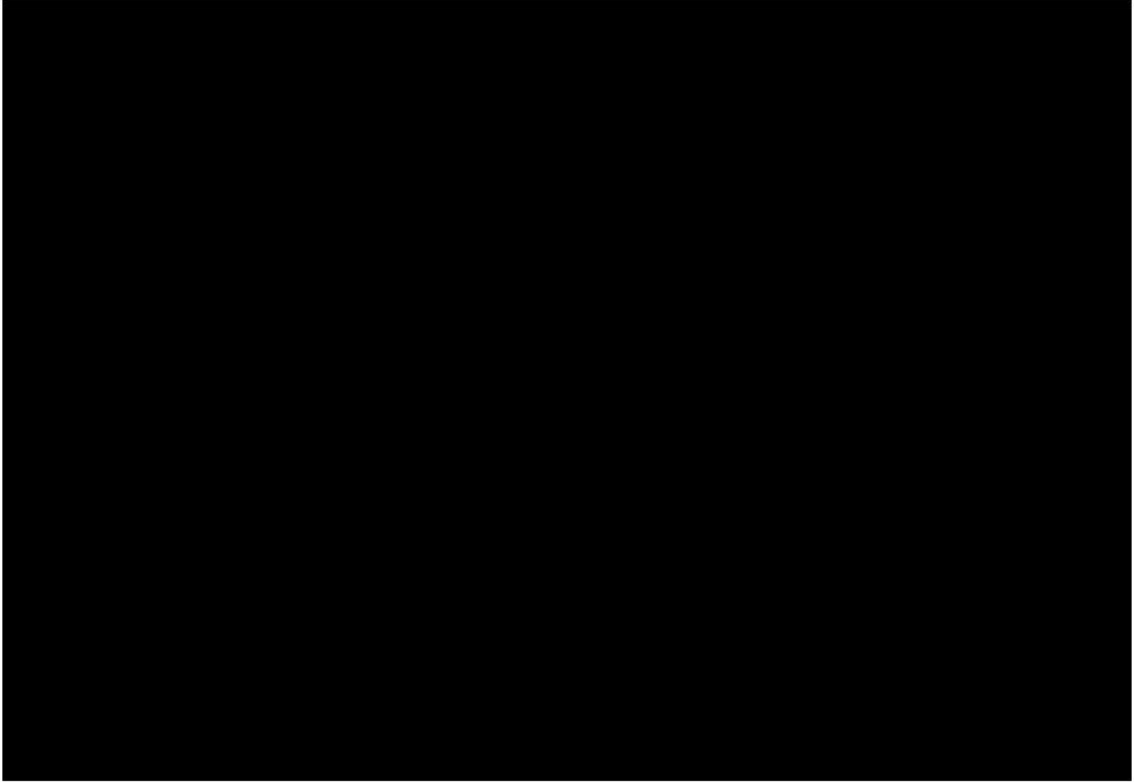
116. After tone curves for images are generated, the Accused Products perform the LTM functionality as described in Apple’s confidential technical documents, portions of which I have reproduced below.



APPL\_COREP\_03044733.







APPL\_COREP\_03044588-90.



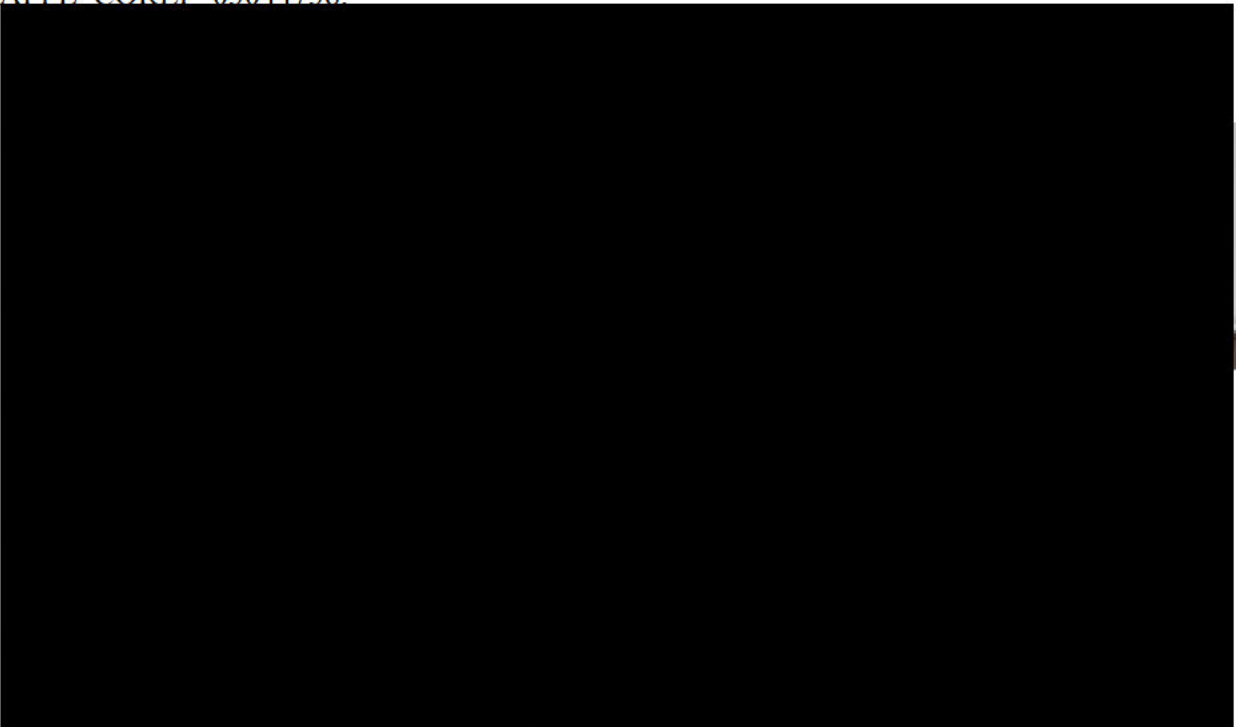
APPL\_COREP\_03044735.



8

Apple Confidential

APPL\_COREP\_03044738.



2

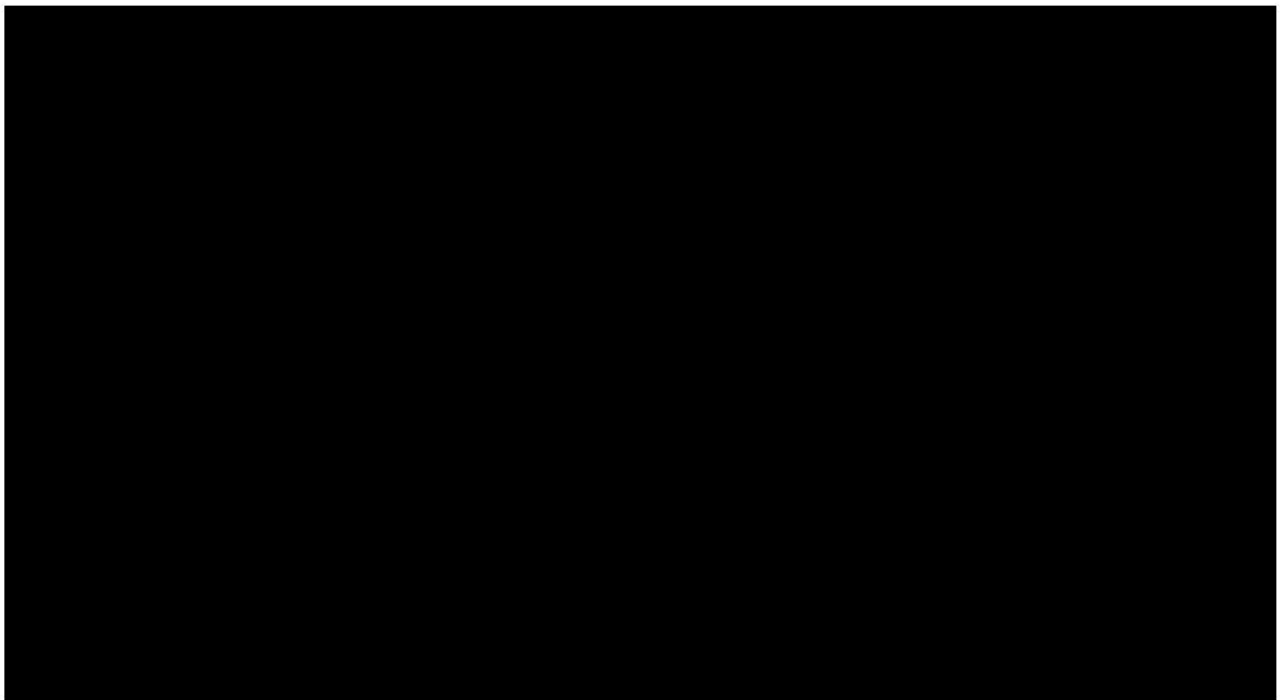
Apple Confidential

APPL\_COREP\_03044720.

117. As Apple has further confirmed in deposition, tone curves from one camera



[REDACTED]. See Chen Depo. Tr. 95-96 (“[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]”). The  
result is [REDACTED]  
[REDACTED] is illustrated in various Apple confidential documents.



APPL\_COREP\_03044726. For example, in the above image, both images on the right hand side of the slide represent images which have had local tone map adjustments applied to some portions (e.g., in the portion of the image representing the brightly-lit white sky), but not to other portions of the image (e.g., in the “non-clipped pixels” sections identified by the arrows). With local tone maps, [REDACTED]

[REDACTED]  
[REDACTED]

APPLE\_COREP\_SC\_00000585.

118. And, for a typical 12MP image, the Accused Products would

See Chen Depo. Tr. at 88:7-21 (“

”).

119. The LTM processing blocks and flows described in detail in Apple's confidential documents [REDACTED]

120. Further, the

\_\_\_\_\_ In doing so, this application of LTM \_\_\_\_\_ creates a new “fused output image which is formed into a composite that accepts as an input values of one or more pixels,” meeting the Court’s construction of a “fused output image.”

121. These LTM values, as the name suggests,

." APPLE COREP SC 00000585, with emphasis added.

APPLE\_COREP\_SC\_00000585 (emphasis added). [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

122. I note that certain source code pages, including those in Apple’s developer documentation, were provided to me by Apple on December 18, 2023 (the day I am signing this report), and I reserve the right to provide further explanation and opinions if appropriate after I have had an opportunity to carefully review those pages.

123. All Accused Products satisfy the limitation, “provide without fusion continuous zoom video mode output images of the object or scene, each output image having a respective output resolution,” in substantially the same way, as illustrated with the below discussion of the source code for video output images generated by the Accused Products during a zoom operation.

124. For example, in the iPhone 7 Plus, during video mode, which rear-facing camera is select is based on the zoom factor. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

125. [REDACTED]

[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED]

[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]





[REDACTED]

128. I understand that the parties dispute whether the term “camera controller” should be construed as a means-plus-function claim. I have offered opinions on this issue, including in a declaration I signed and which I understand was filed with the Court in July 2023. As I explained in that declaration, the term “camera controller” is not a nonce term and connotes sufficient structure to a person of ordinary skill, and that my opinion is supported by voluminous contemporaneous evidence from before the ’291 patent was filed.

129. I understand that Apple’s expert, Dr. Fredo Durand, provided a declaration in August 2023 to the Court regarding whether “camera controller” should be construed as a means-plus-function term, and I also understand that neither I nor Corephotronics have been permitted a chance to respond to Dr. Durand’s opinions in his August 2023 declaration. In any event, I have reviewed that declaration, and I understand that Dr. Durand’s opinions, which I assume for purposes of this report will be adopted by Apple for purposes of disputing its infringement, are that “camera controller” claims functions which are provided by steps 504 through 512 of Figure 5 of the ’291 patent and Figure 6 of the patent. I have reproduced Figures 5 and 6 below for context.

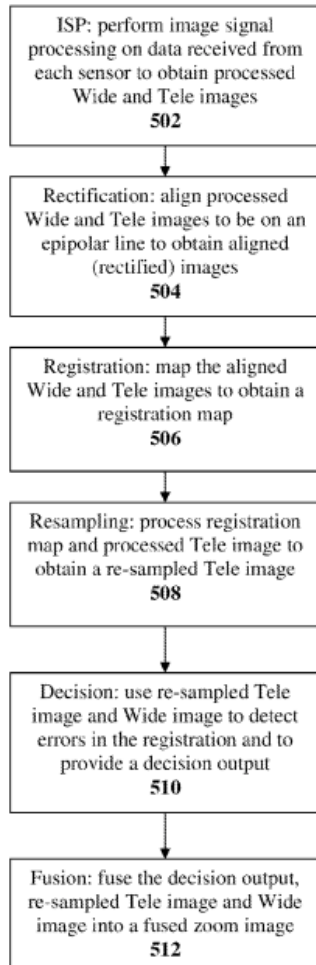


FIG. 5

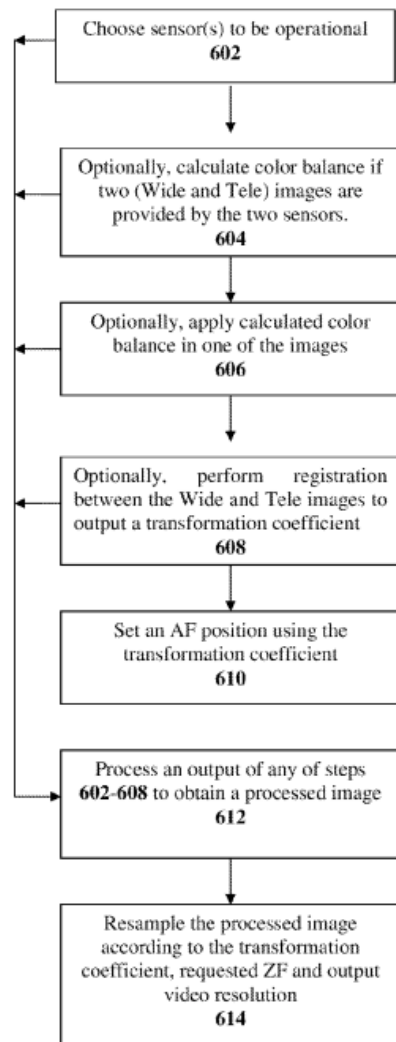


FIG. 6

130. Even if “camera controller” is construed in the manner suggested by Dr. Durand and mapped to steps illustrated in Figures 5 and 6, the Accused Products would still meet this limitation, as explained below.

#### 6.1.1.4.1 Steps 504, 506, 508, 510, and 512 of Figure 5

131. Step 504 is satisfied by Group 1 of the Accused Products (iPhone 7 Plus) through the use of warping to obtain a rectilinear map of both outputs from the Tele and Wide imaging sections. As Apple explained during its 2017 presentation, which is available here on Apple’s website,

<https://developer.apple.com/videos/play/wwdc2017/507/>. As Apple’s Brad Ford explains at 41:25 of the presentation, the raw images captured by the Accused Products (that is, the raw data that is generated through the use of the pixel processor of the ISP firmware) have “radial distortions” because the optical lenses which pass light rays to the image sensors are “bent in slightly odd ways” as they traverse the lens elements. Warped images are “no good” for comparing images to find, for example, disparity between image or to register features. Such images instead “need to be matched” (41:50). Thus, “before comparing the tele and wide images, we have to do an extra step. We have to make those warped images rectilinear” (42:15) by unwarping them using a calibrated set of coefficients. Then, the Accused Products “can, with certainty, compare points in the two images and find a perfect, real-world, rectilinear disparity map.” *Id.*

132. All Accused Products satisfy step 504 in a similar way. Taking the [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED]

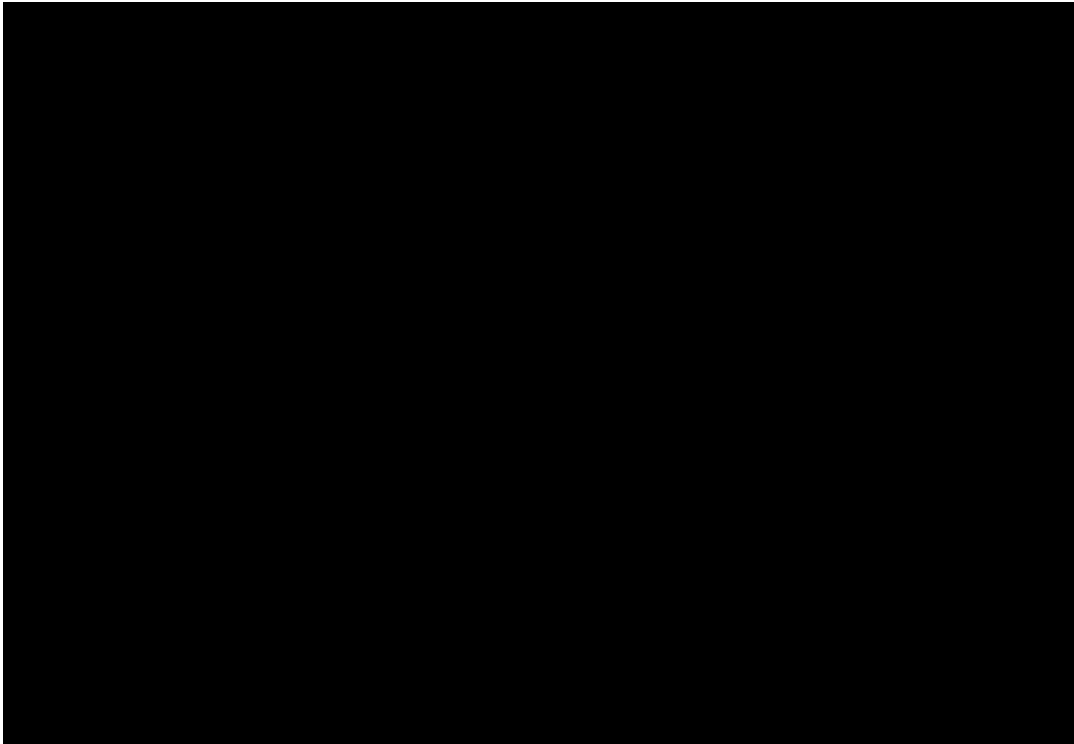
[REDACTED]

[REDACTED]

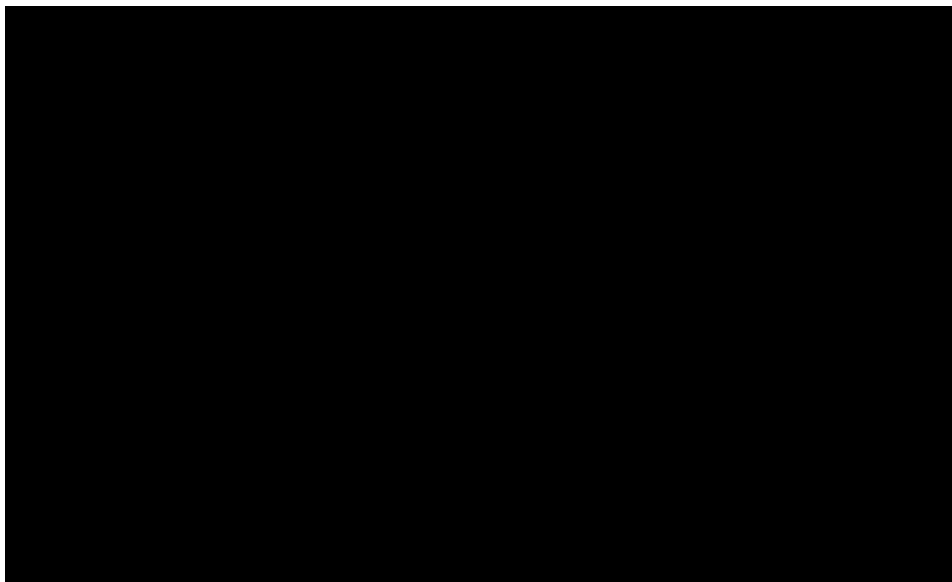
[REDACTED]

133. All ISPs of the Accused Products have and perform similar [REDACTED]

[REDACTED] See:



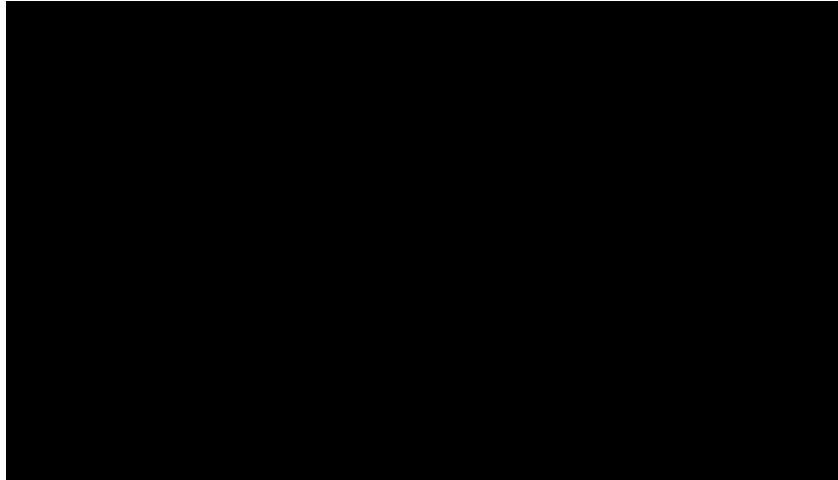
APPL\_COREP\_02831094.



APPL\_COREP\_03212266.

134. The Accused Products also satisfy step 506. In the iPhone 7 Plus, [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]  
[REDACTED]  
[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

135. For all Accused Products, [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] [REDACTED]  
[REDACTED]  
[REDACTED]



APPL\_COREP\_00303222.

137. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

138. In the Group 2 and 3 Accused Products, [REDACTED]  
[REDACTED] satisfies step 506 literally. [REDACTED]  
[REDACTED]  
[REDACTED]

139. The Accused Products also satisfy Step 510. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

140. For all Accused Products,

141. To the extent it does not, it would do so under the doctrine of equivalents

142. The Accused Products also satisfy Step 512.

[REDACTED]

[REDACTED]

**6.1.1.4.2 Step 602, 604, 606, 608, 610, 612, 614 of Figure 6**

143. Steps 604, 606, 608, and 610 are optional, based on the labels the '291 patent provides for Figure 6.

144. The Accused Products satisfy steps 602 and 612 of Figure 6. As I have already explained above, step 602 is satisfied because [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

145. Further, step 612 is satisfied because [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED]

[REDACTED]



146. Finally, step 614 is satisfied in

#### 6.1.1.5 Element 1(c)(2)

147. Element 1(c)(2) reads as:

wherein the video output images are provided with a smooth transition when switching between a lower zoom factor (ZF) value and a higher ZF value or vice versa, wherein at the lower ZF value the output resolution is determined by the Wide sensor, and wherein at the higher ZF value the output resolution is determined by the Tele sensor.

of: “prior art identified by Apple teaches techniques which would be non-infringing alternatives.” In my view, this is not an identification of any specific non-infringing alternative, much less one which is accompanied by a discussion of any cost, performance, benefits, consumer acceptance, suitability issues, or technical challenges, (or lack thereof), associated with any specific non-infringing alternative.

253. The last paragraph of Apple’s substantive position concerning non-infringing alternatives to the ’291 patent asserts that “providing a fused output image in still mode was found to be an undesirable feature and removed in products after the iPhone 7 Plus.” On its face, this appears to simply be an assertion that it was allegedly an undesirable feature to practice the claims of the ’291 patent, which requires “combine in still mode ... image data to provide a fused output image.” Apple’s paragraph here continues to the end: “The removal of this feature was performed by Apple and resulted in a superior product in terms of customer experience. The absence of the functionality for a fused output image in still mode constitutes an alternative non- infringing design.” But these statements are conclusory and do not identify any specific feature that Apple allegedly removed. I understand, however, that based on the testimony of Apple’s witnesses, that Apple disabled [REDACTED]

[REDACTED] introduced with the iPhone 7 Plus [REDACTED]

[REDACTED] Zhou Depo. Tr., at 38:16-24. Dr. Zhou confirmed, however, that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] To the extent Apple intends to refer to the disabling [REDACTED] as an alleged non-infringing alternative, it is my opinion that it is not a non-infringing alternative because the Accused Products also separately infringe the ’291 patent through their use of the LTM functionality, which was

present in the Accused Products since September 2016 to the present day. Further, the Accused Products continue to have the Smooth Transition feature (with no suggestion by Apple that it has been removed or could be removed in a feasible way that is acceptable to consumers).

## 8 TECHNICAL COMPARABILITY OF COREPHOTONICS' LICENSE AGREEMENTS

254. I understand that over the course of this case Corephotonics produced a number of agreements that it has with other entities, including patent and technology licenses. I also understand that Corephotonics' damages expert, Jim Bergman, is relying on certain of these Corephotonics agreements in his report as relevant to the "hypothetical negotiation" that would have occurred between the parties to this case. I only address the technological aspects of those Corephotonics agreements relied upon by Mr. Bergman below. My discussion is informed by conversations with Mr. Bergman as well as Eran Kali, Corephotonics' VP of Licensing, who provided the factual context of these agreements as well as the technology and patents intended to be licensed through those agreements. I understand that Mr. Kali provided deposition testimony Apple about some of these agreements during the case, as well, and have reviewed his deposition testimony to inform my opinions on these licenses.

255. I have reviewed an agreement Corephotonics signed with [REDACTED]  
[REDACTED] I have discussed with  
Mr. Kali the subject matter of this and Corephotonics's other patent licenses, and have confirmed  
my understanding of the licenses as described here. In my opinion the technology involved in the  
[REDACTED] is comparable to that of the '291 patent. This is apparent from the face of  
the agreement. For example, the agreement requires Corephotonics to provide a [REDACTED]

**11 SURVEY CONDUCTED BY DR. MICHAEL A. KAMINS**

303. I understand that Dr. Michael A. Kamins has conducted a survey directed to capturing and analyzing the value of the inventions of the '291 patent. I have reviewed the written survey used by Dr. Kamins in this analysis, and agree that the questions capture the inventions of the '291 patent, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] I believe these questions capture the core of the benefits of the invention of the '291 patent and closely mirror the '291 patent specification's discussion of the value that its invention generates in the mobile device space.

By:   
John C. Hart